

Policy Myths and Options

EES 3310/5310

Global Climate Change

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Class #23: Wednesday, March 17 2021

Adding Up Damages

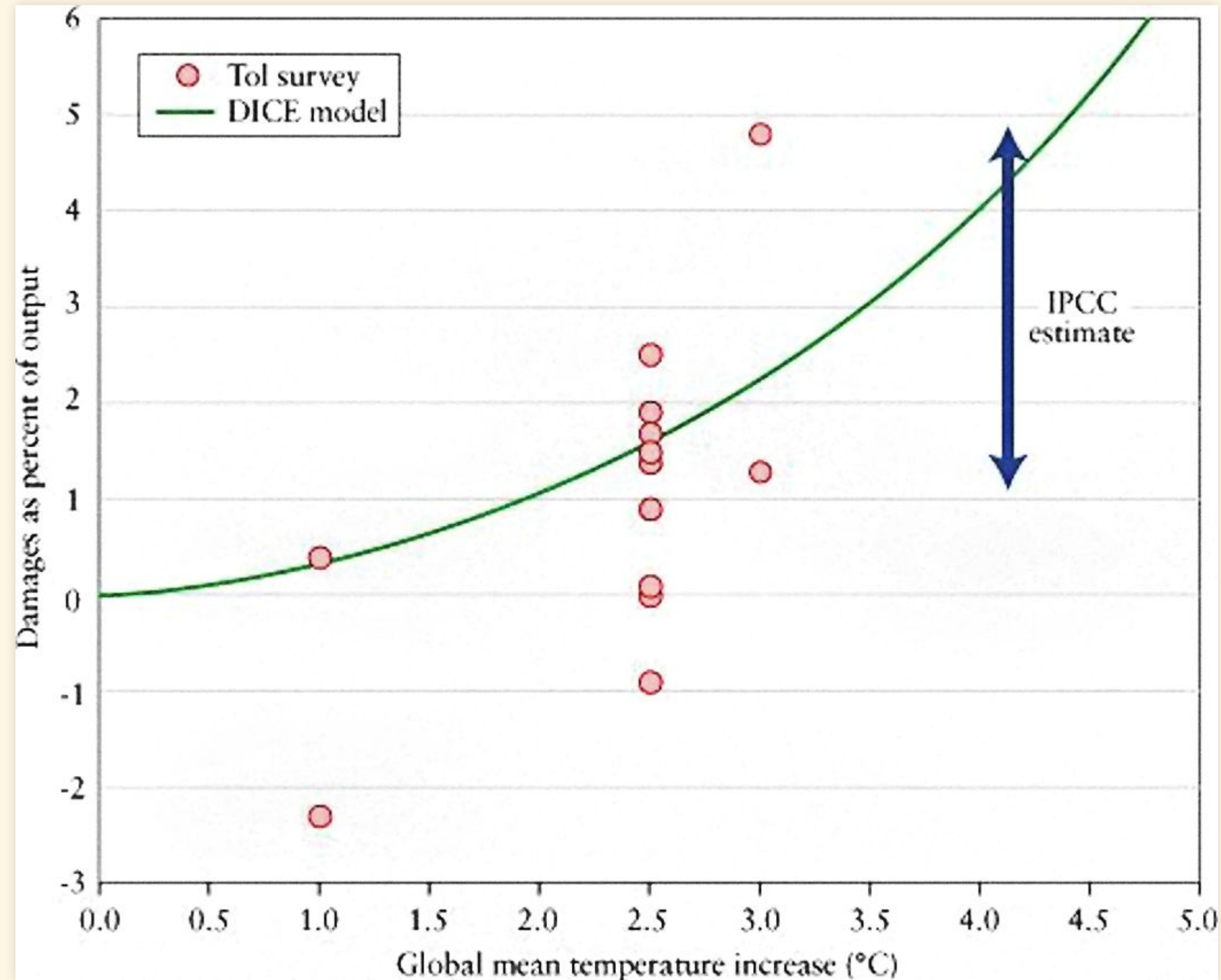
Risk Premiums

- Why do people buy insurance?
- Costs and benefits of insurance
 - How does insurance company set premiums relative to expected payouts?
 - On average do customers get more, less, or the same back as they paid in?
 - So why does anyone buy insurance?
- Is there a lesson here for climate policy?

Overview of Damage Assessment

- Climate change is an externality:
Unintended consequence of economic activity
- Zero growth would dramatically slow warming
- Climate change can slow future growth
 - If climate change causes negative growth,
economic calculations stop making sense
- Converting unmanaged → managed systems reduces damage, vulnerability
- Forecasting damage from climate change requires forecasting economies:
 - How much of economy will be managed?
 - What technology will be available to adapt & mitigate damage?
- Value of non-economic goods
(wilderness, ecosystems, biodiversity, ...)

How much damage?



Source: R.S.J. Tol, J. Econ. Perspect. **23**, 29 (2009). doi:10.1257/jep.23.2.29

- Note benefits at 1.0 and 2.5 degrees...

Oops! Gremlins!

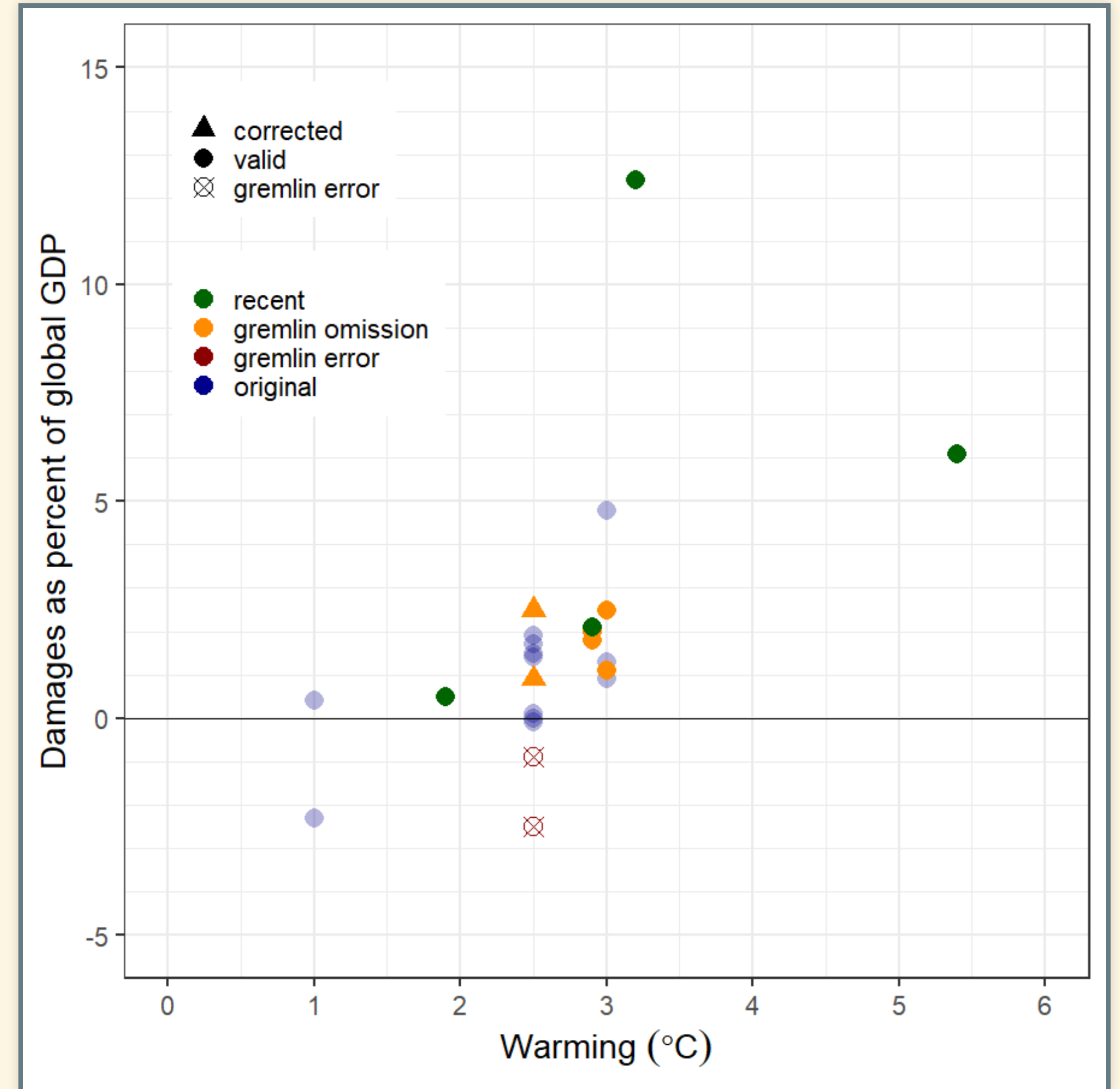
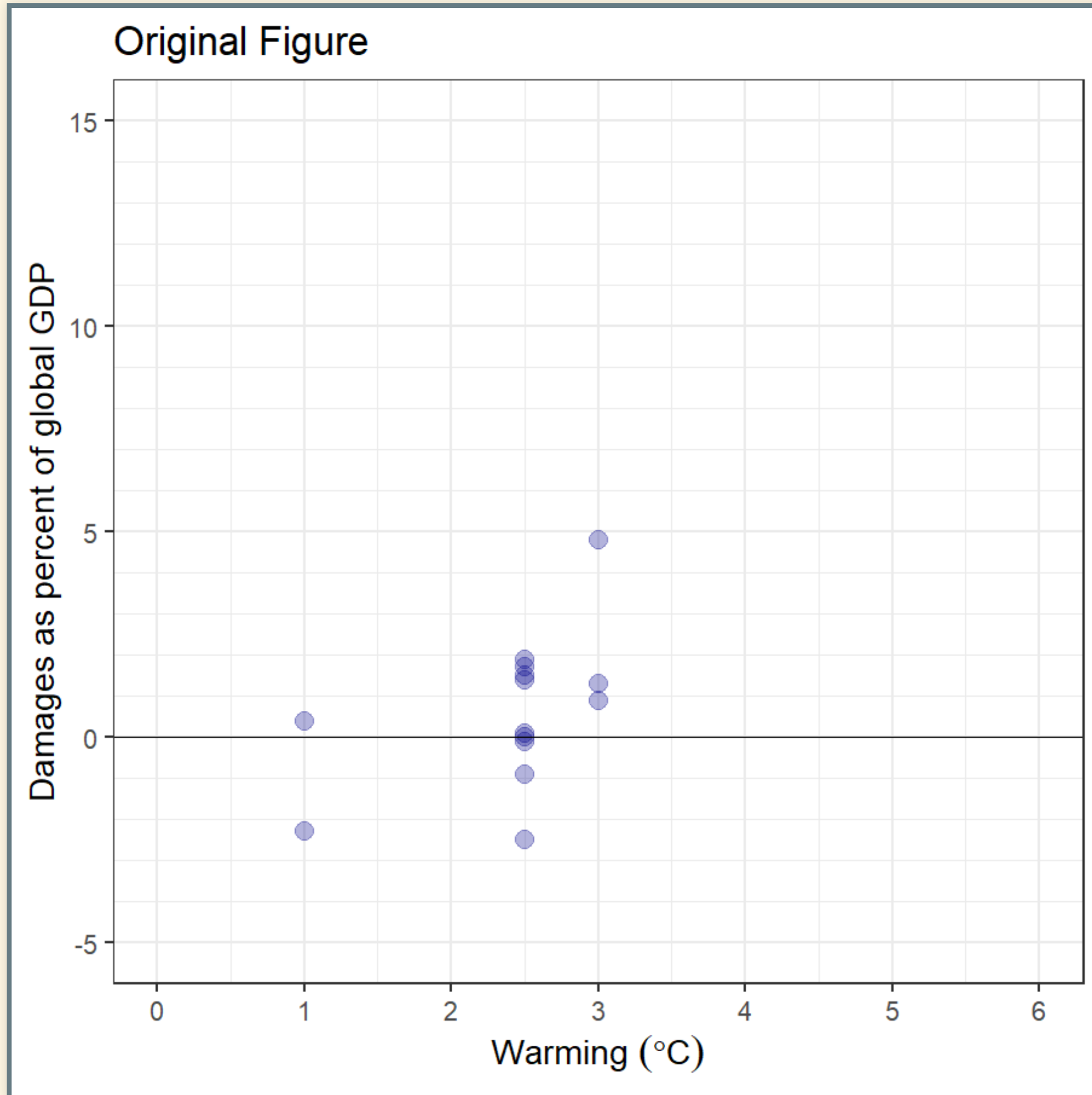
“Gremlins intervened in the preparation of my paper ... minus signs were dropped from the two impact estimates ...”

R.S.J. Tol, J. Econ. Perspect. 28, 221 (2014) doi: 10.1257/jep.28.2.221

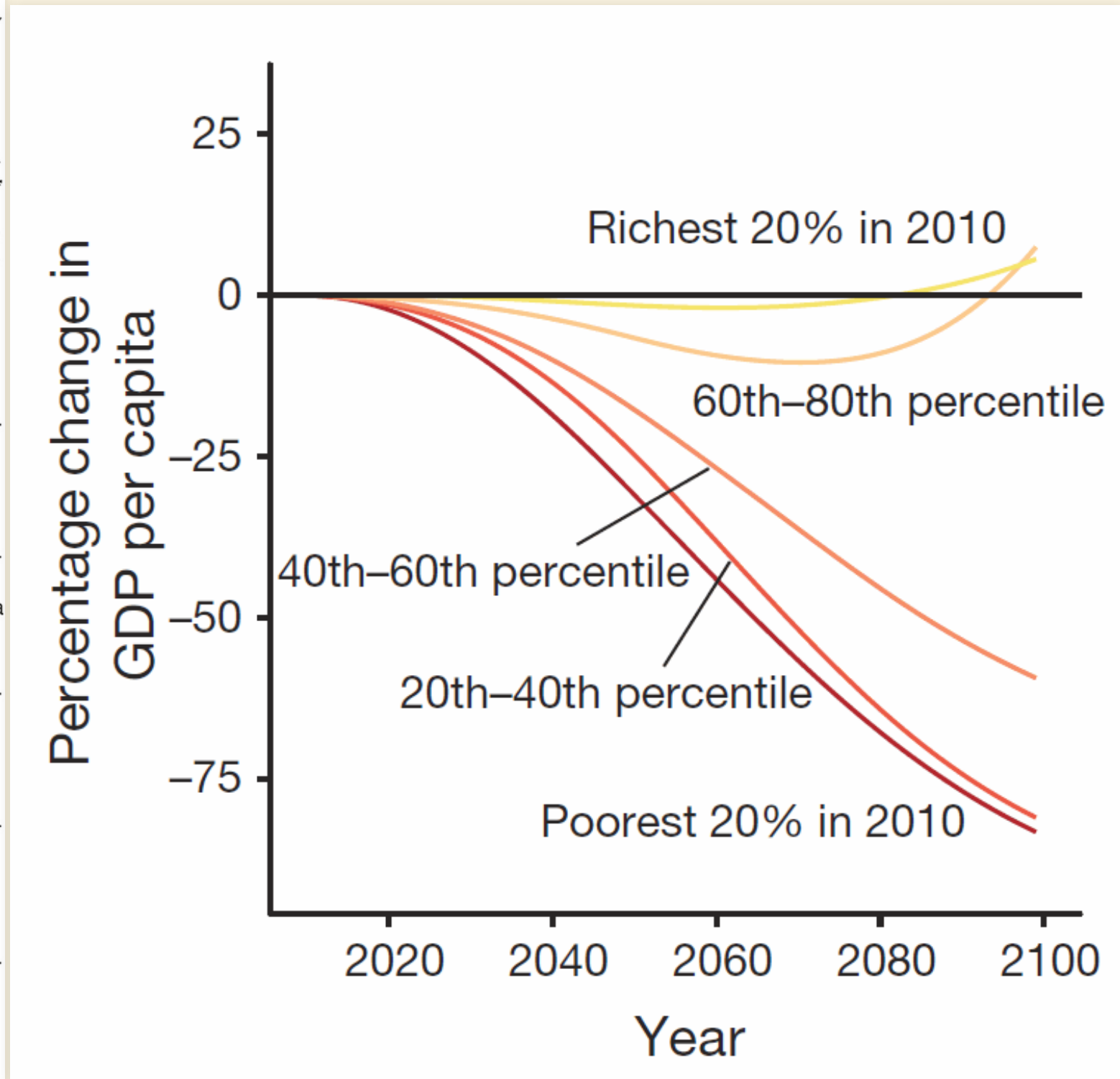
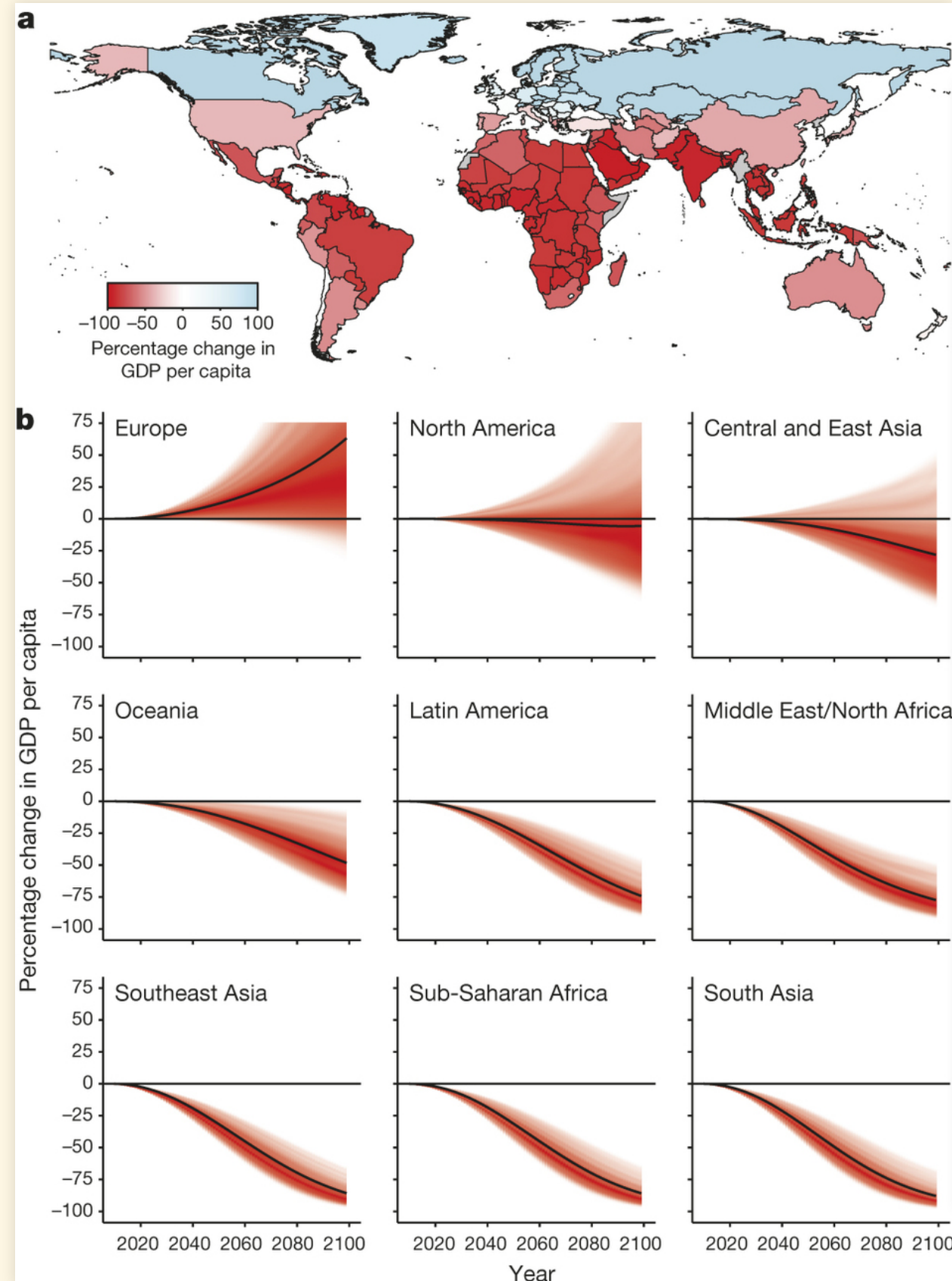


- Global warming was worse than Tol thought:
 - Two studies that found net harm from global warming were reported as net benefits.
 - Four studies that found net harm were simply omitted.
- Then, in 2015, more Gremlins:
 - numbers were not even calibrated correctly.

Damages from Warming



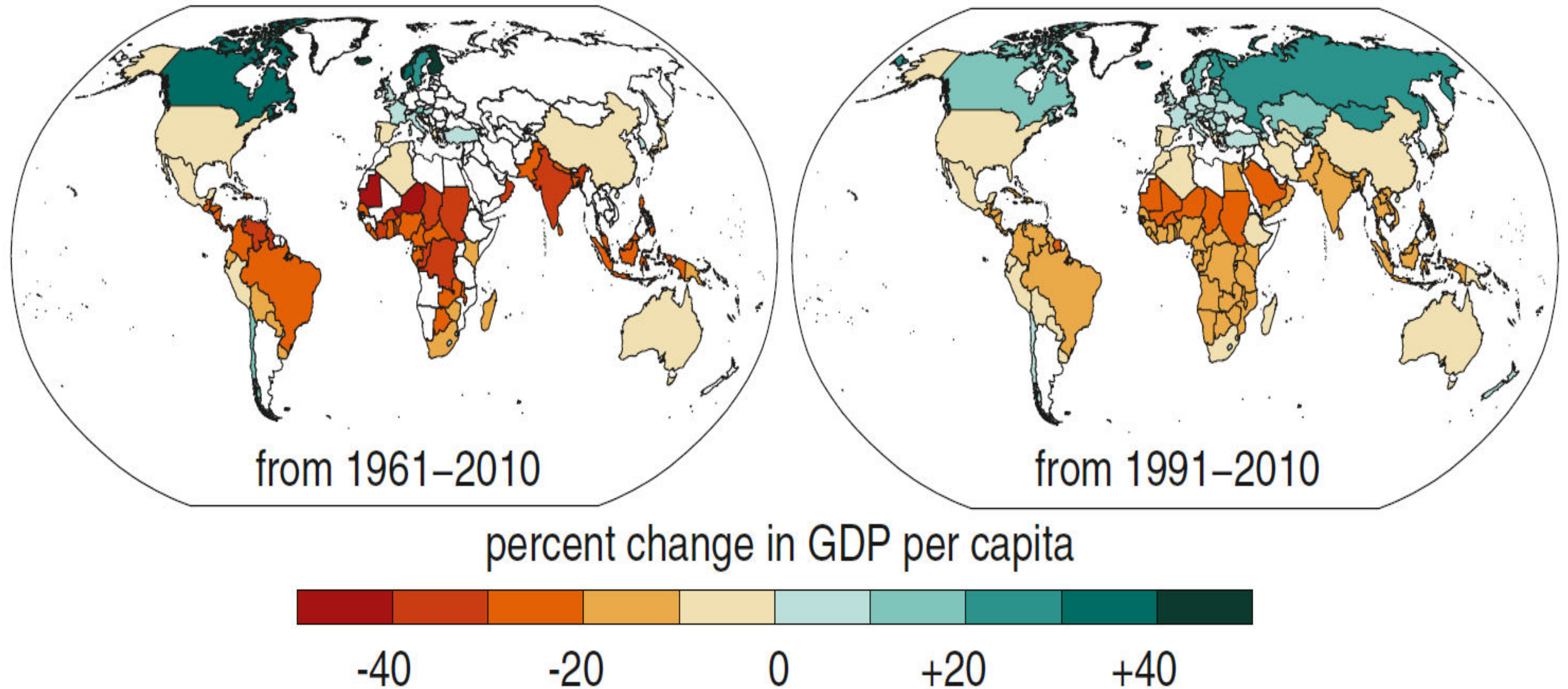
More Recent Work



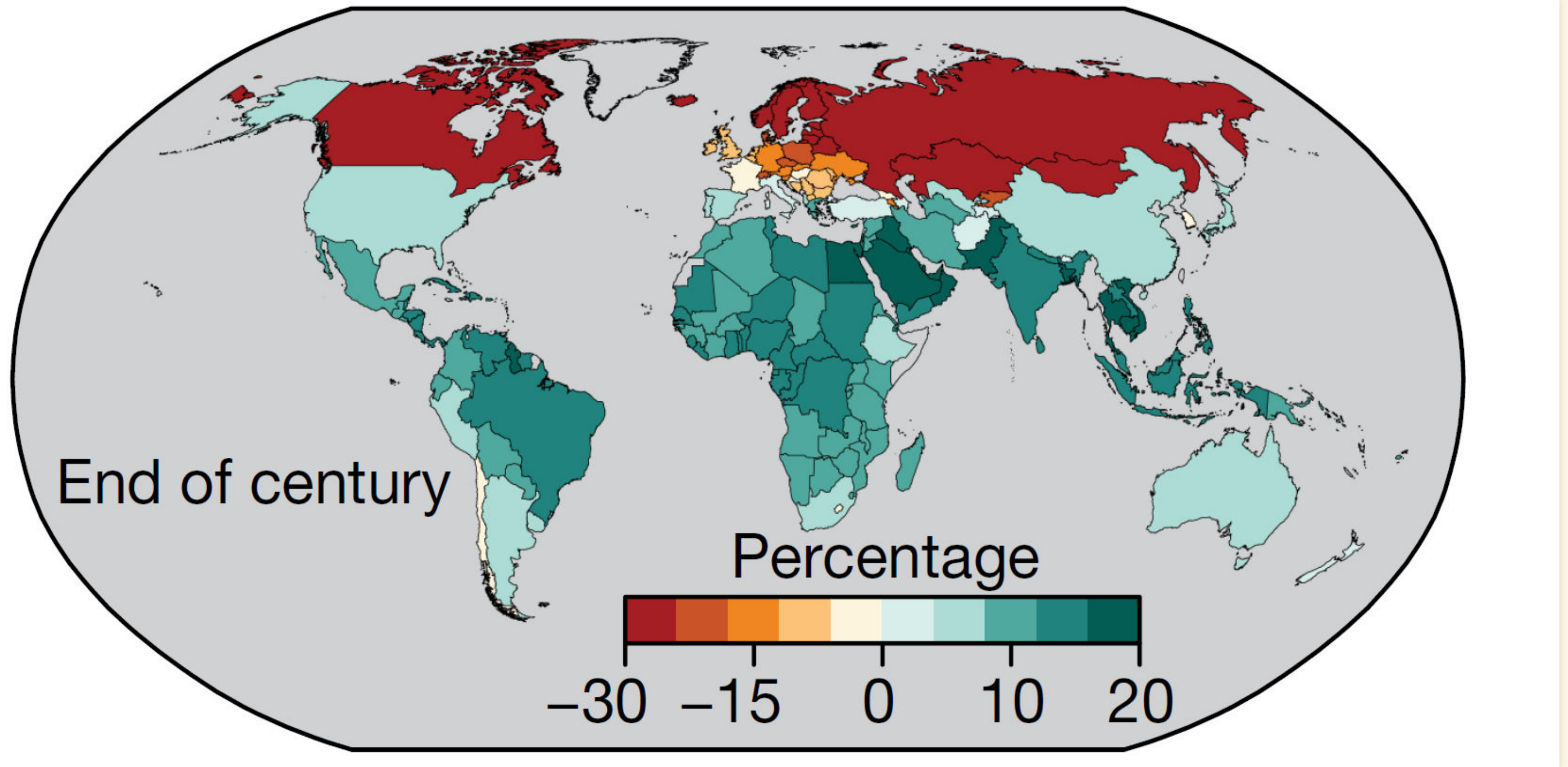
M. Burke *et al.*, Nature **527**, 235 (2015). doi:10.1038/nature15725

Under a worst-case scenario

Global Warming is Already Affecting Economic Inequality

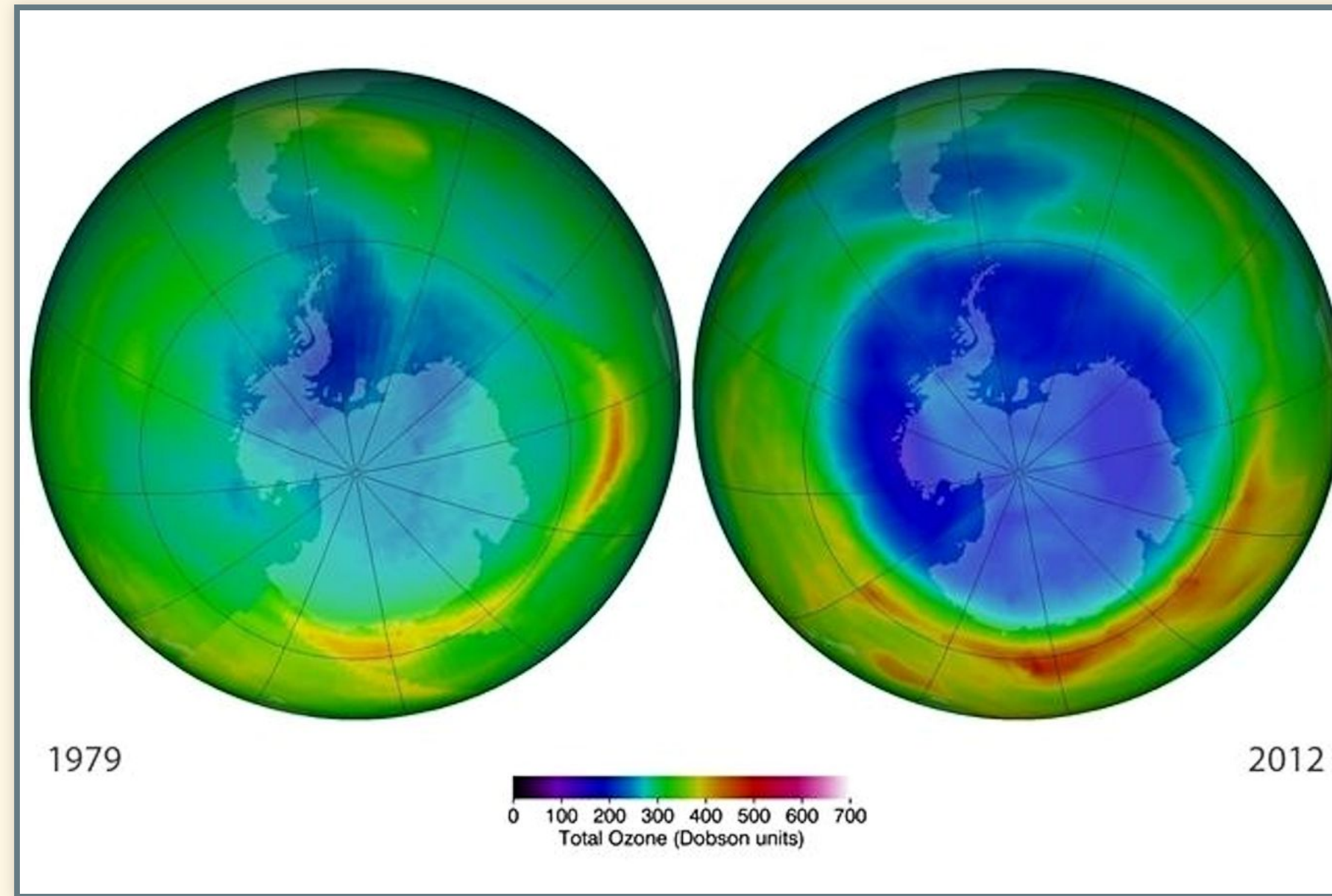


Benefits of Reaching International Climate Goals



Pielke's Lessons from the Ozone Hole

Pielke's Lessons from the Ozone Hole



- 1970s: Significant scientific uncertainty
- Decision to take action without waiting for certainty
- Discovery of hole: tipping point
- “No regrets” policy
- Flexible policy (renegotiate details every two years)

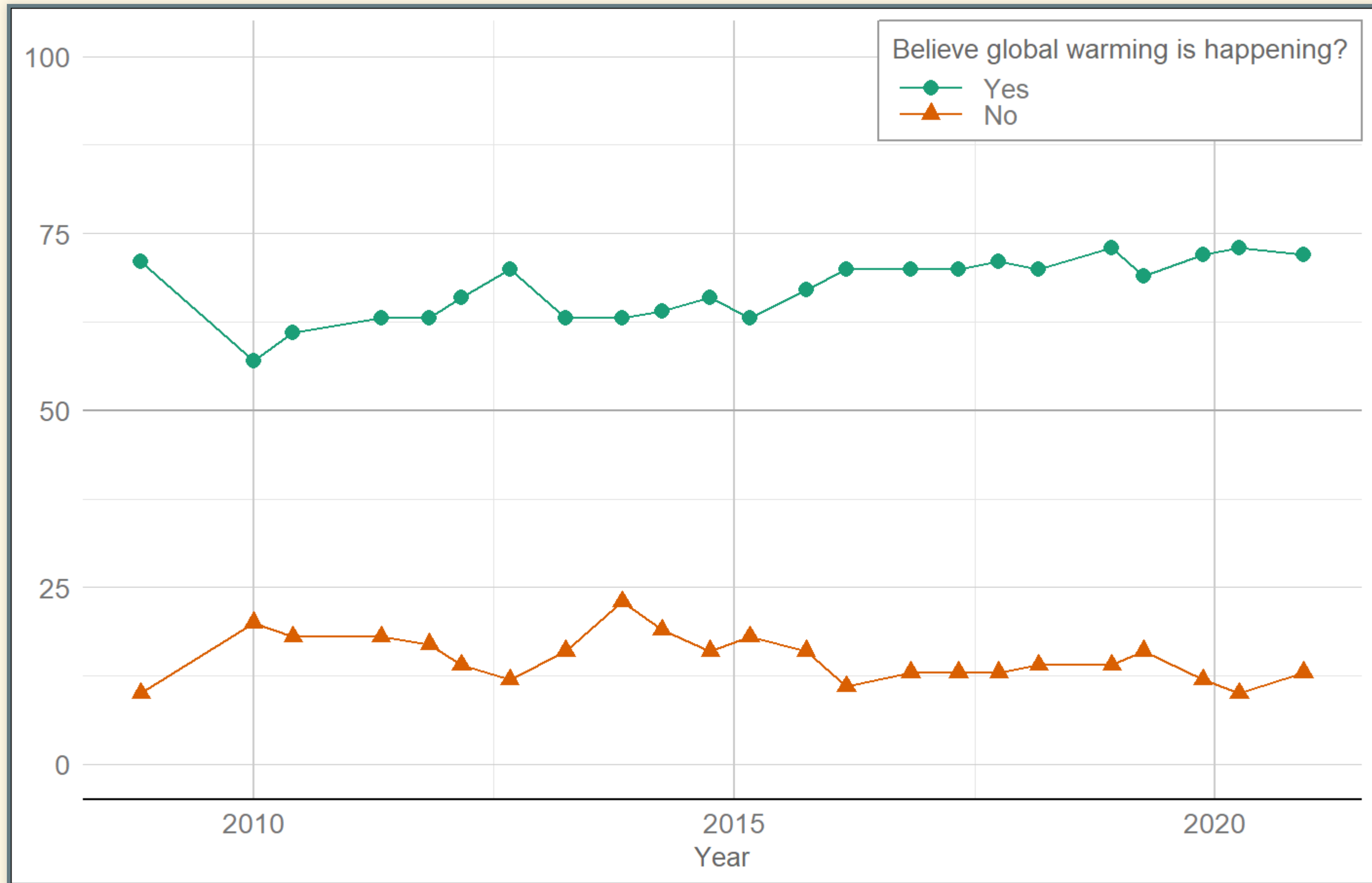
Policy Myths

Policy Myths

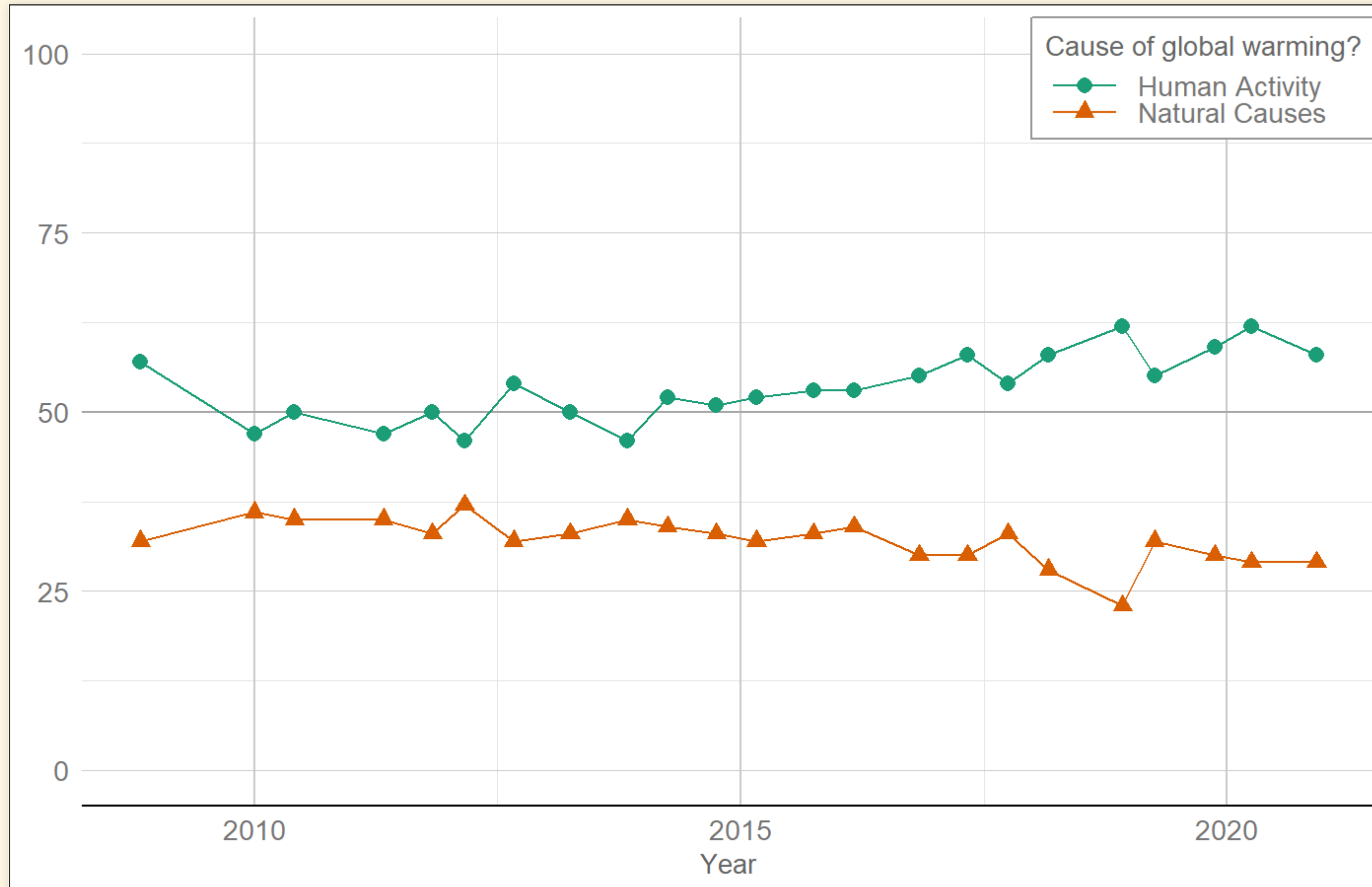
1. We lack political will
2. We must trade off the economy for the environment
3. We have all the technology we need

Myth 1: We Lack Political Will

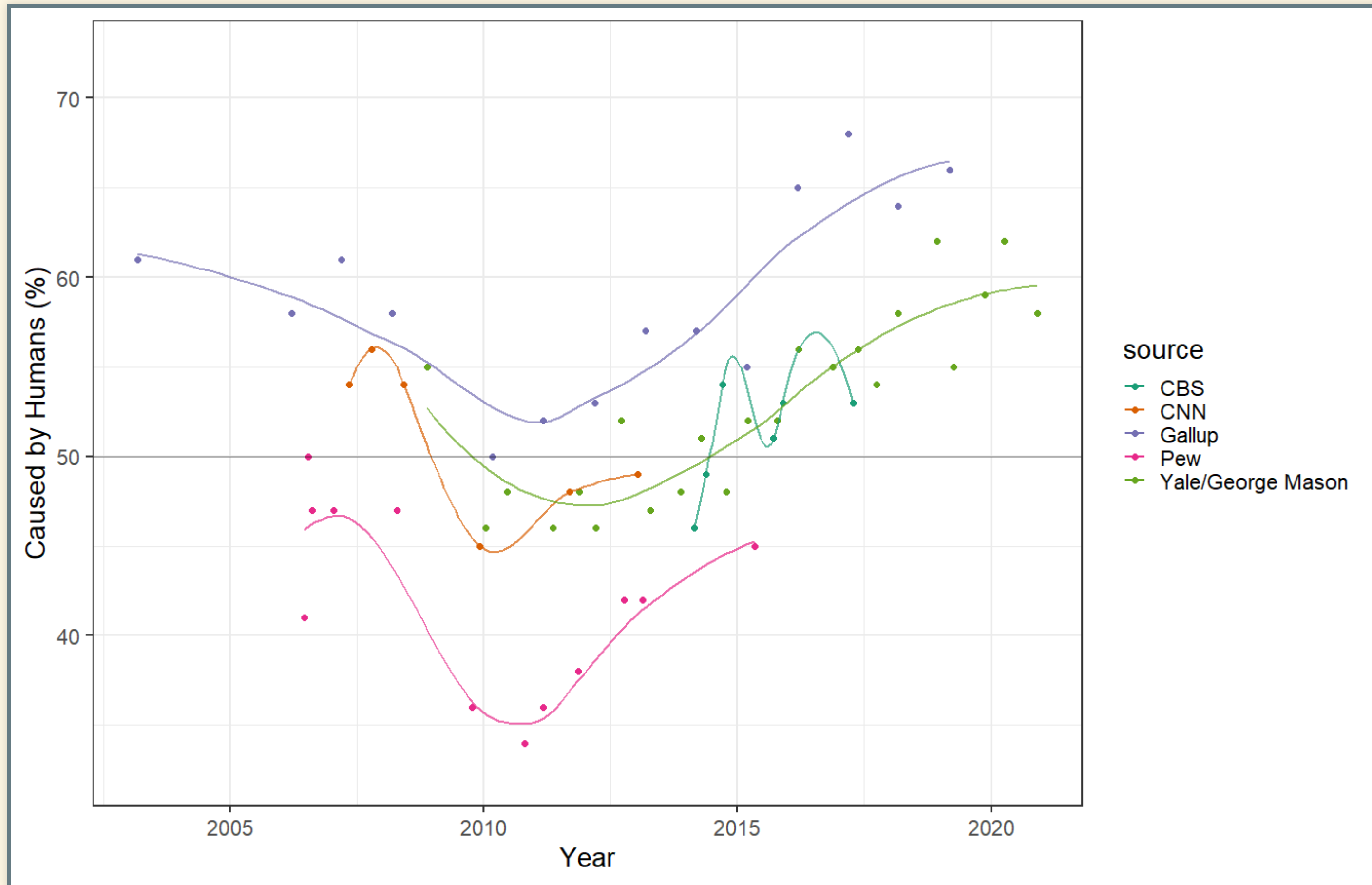
Public Opinion: Is the Earth Warming



Public Opinion: Cause of Warming?



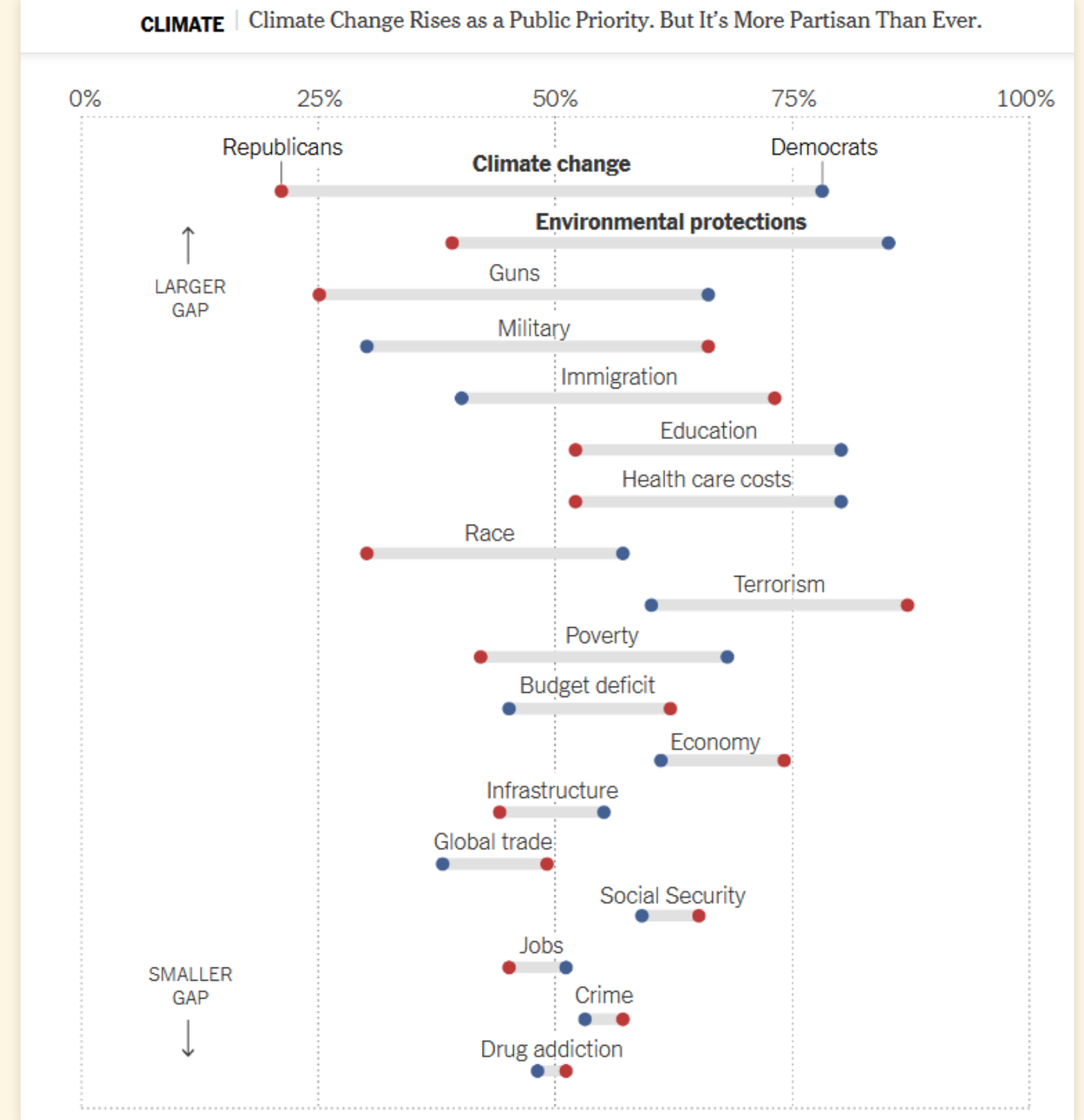
Variation across polls



Partisan Split

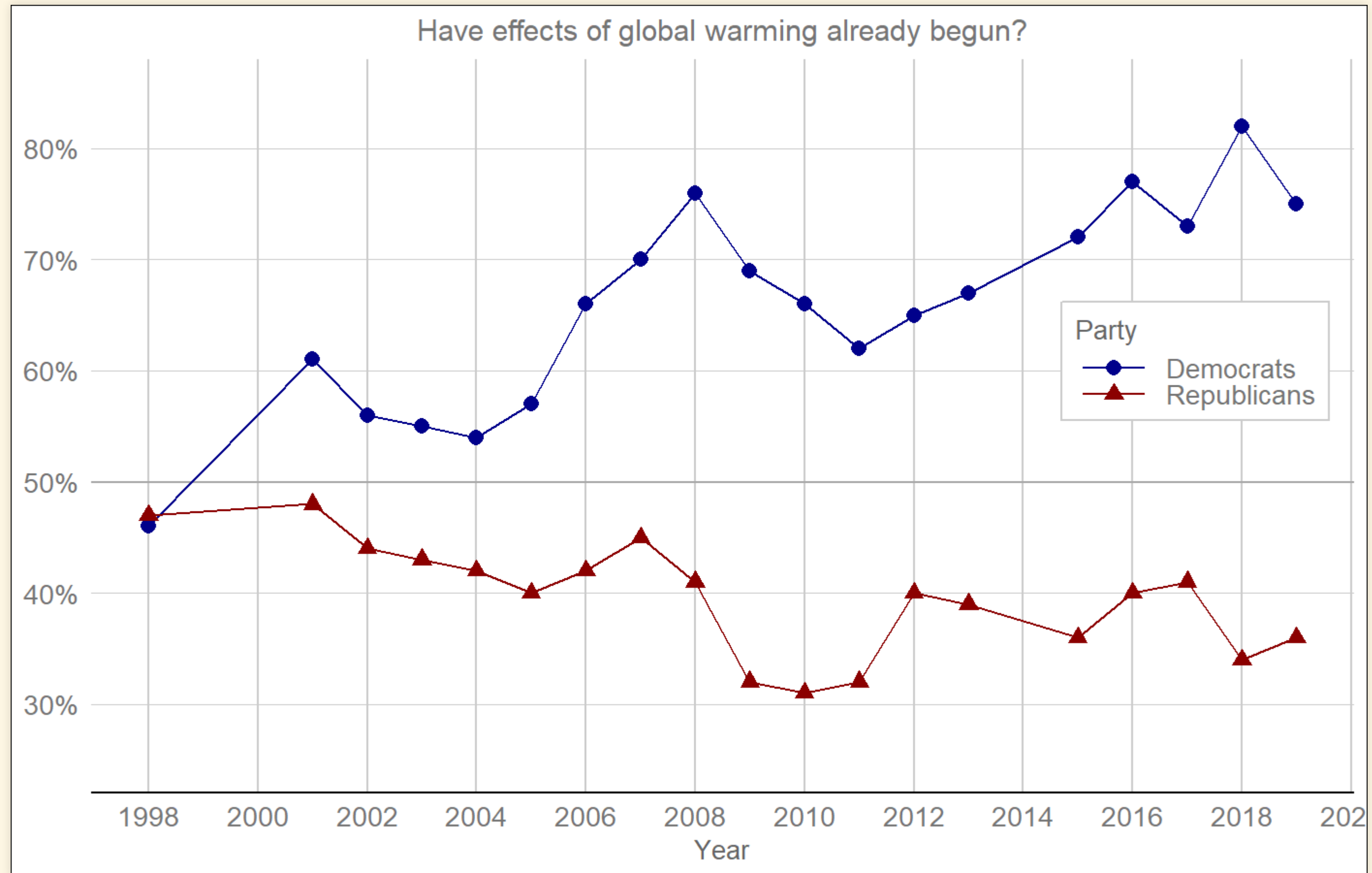
Partisan Split:

- Climate policy is the most divisive issue
- Greater partisan polarization than abortion



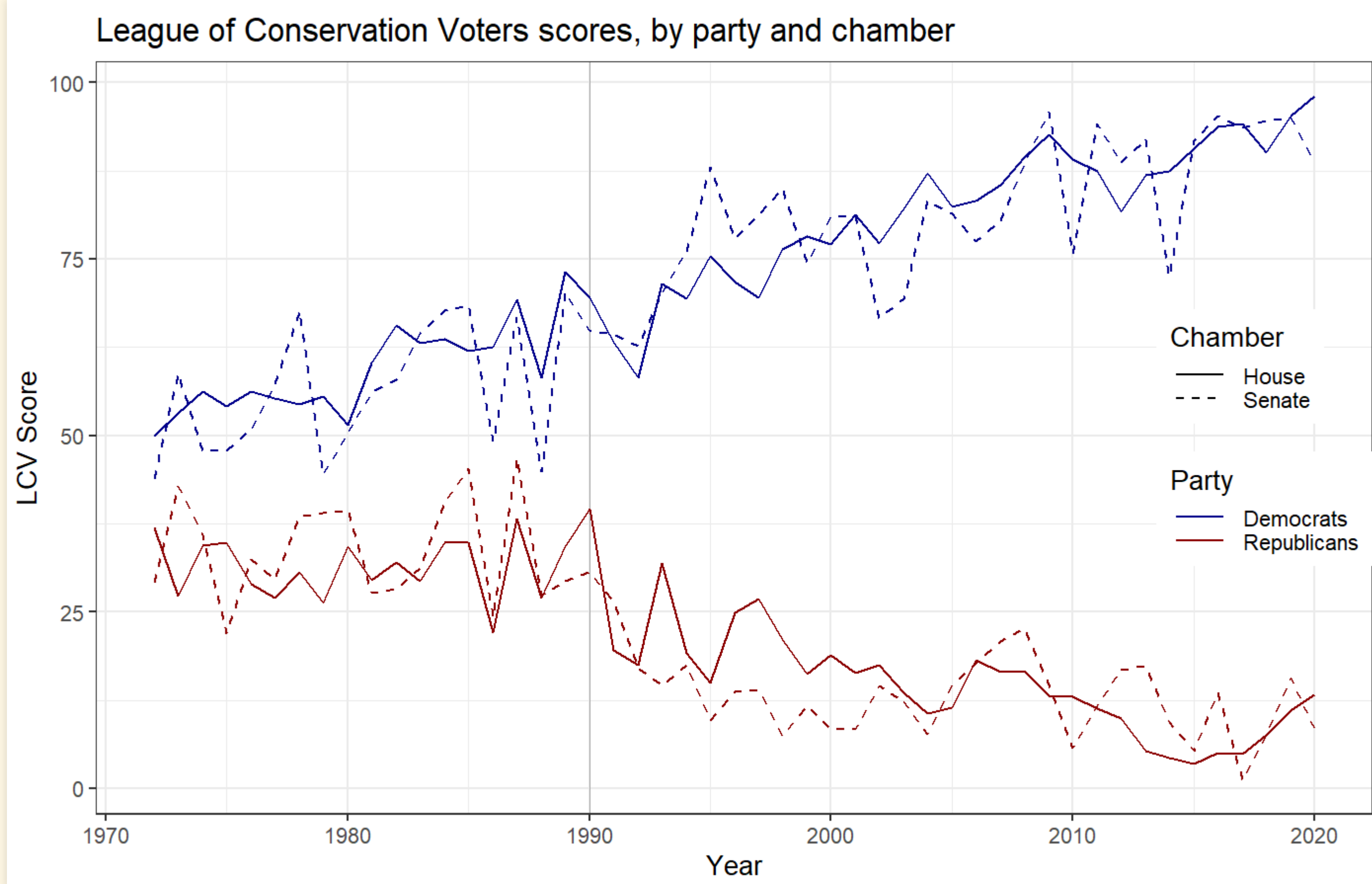
Pew: As Economic Concerns Recede, Environmental Protection Rises on the Public's Policy Agenda

Partisan split



Gallup: Americans' Views on Global Warming, 2019, U.S. Concern About Global Warming at Eight-Year High (2016) Republican Skepticism Toward Global Warming Eases (2013),

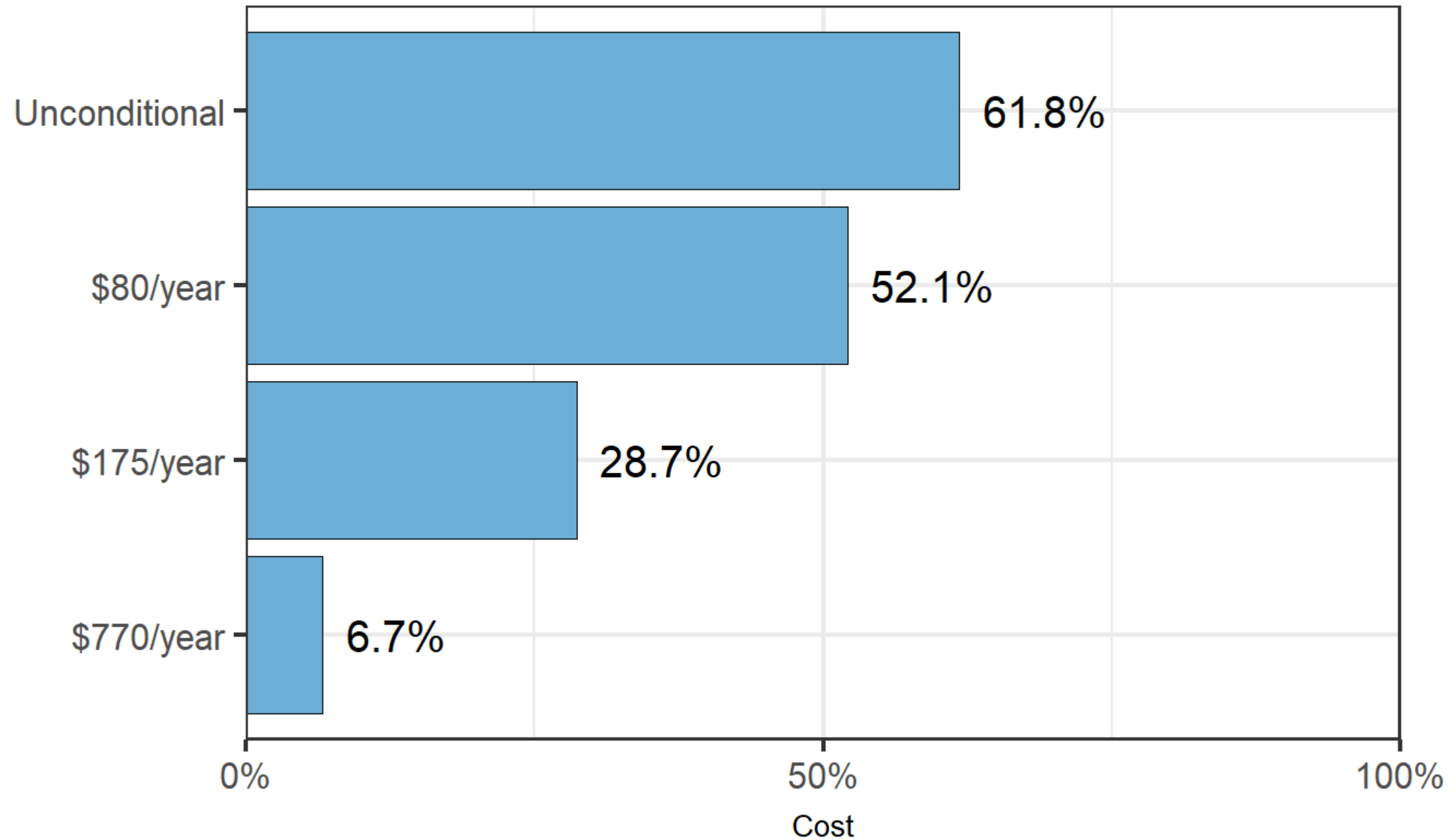
Polarization in Congress 1972–2020



Myth 2:
We must trade off the economy
for the environment

Willingness to pay (2009)

Would you support a policy if the average cost per household is...?



Iron Law of Climate Policy

- People want action on global warming
- But **if climate policies conflict with economic growth, growth will win every time.**

Frank Luntz (2010)

What has changed is that the American economy went to hell. And when you ask voters are they more concerned about destroying their environment over the next 100 years or rehabilitating their economy over the next 100 weeks, they'll choose the economy over the environment any day.

"Candidates Take Aim At Climate Bill To Win Votes" *All Things Considered*, NPR, 28 Oct. 2010

<https://www.npr.org/templates/story/story.php?storyId=130888515>

James Inhofe (2016)

I assumed like everybody else, way back when everyone was talking about global warming and all that, I assumed that that was probably right, until I found out what it was going to cost

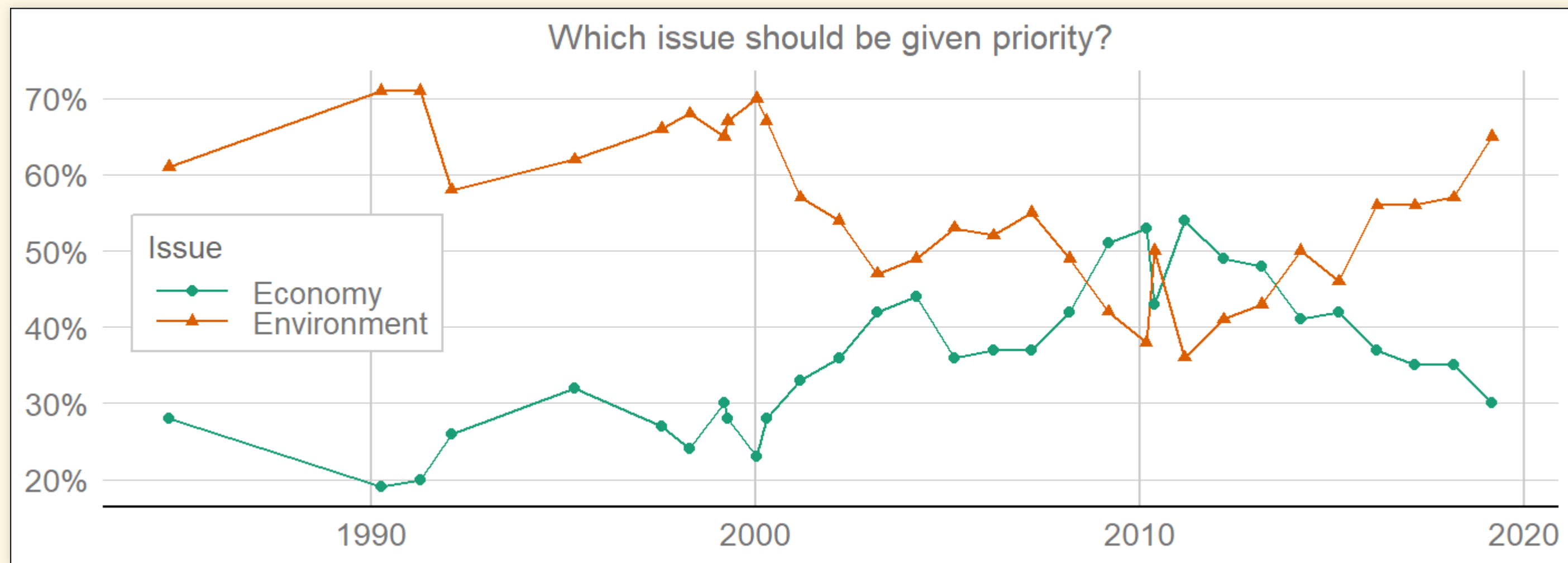
Heritage Foundation Energy & Climate Policy Summit, Dec. 8, 2016

<https://www.youtube.com/watch?v=surP84BQwhc>

New Data

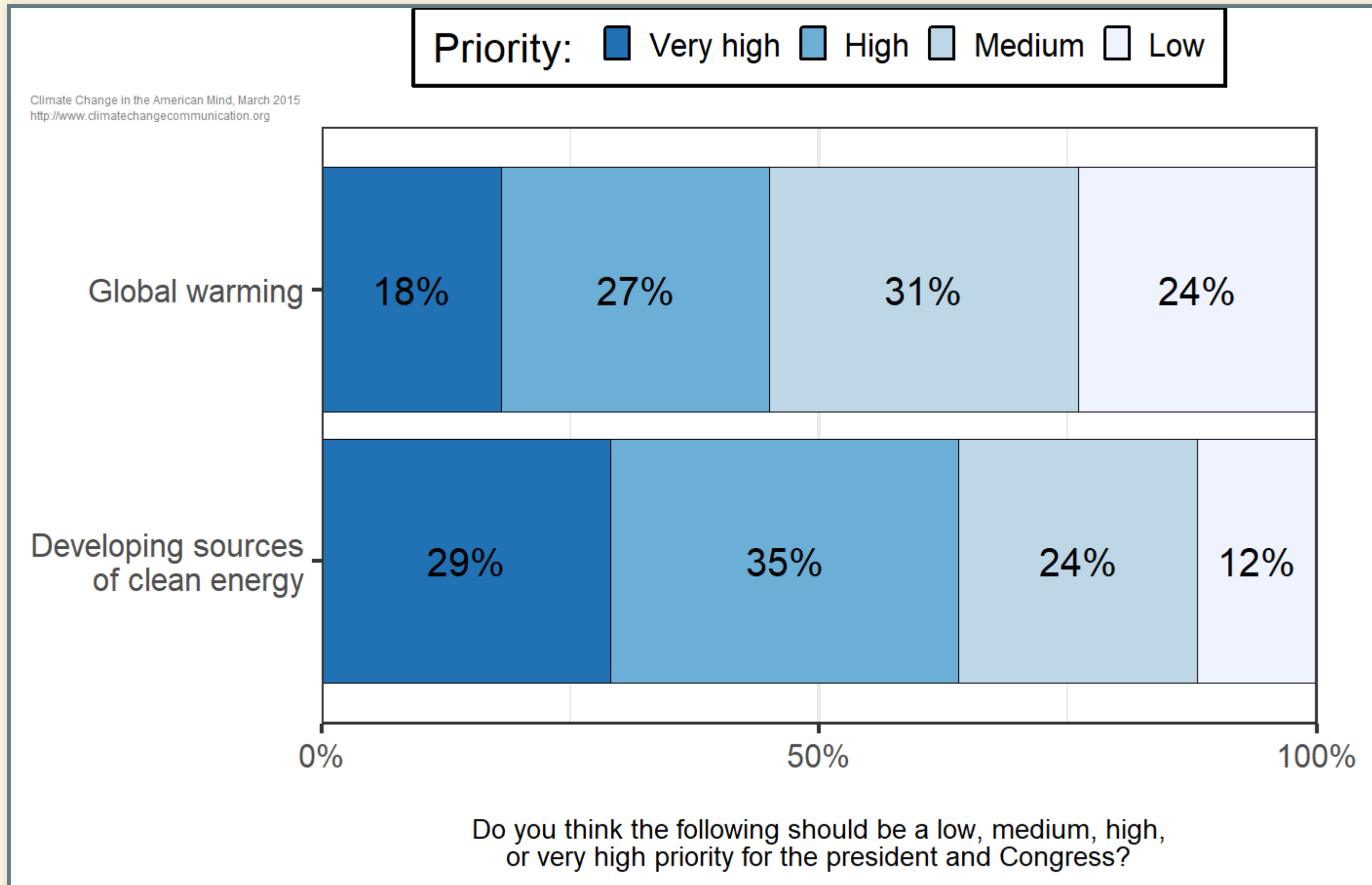
Nearly two-thirds of Americans ranked protecting the environment as a leading policy priority. — [Pew survey \(2020\)](#)

By the widest margin since 2000, more Americans believe environmental protection should take precedence over economic growth. — [Gallup Survey \(2019\)](#)

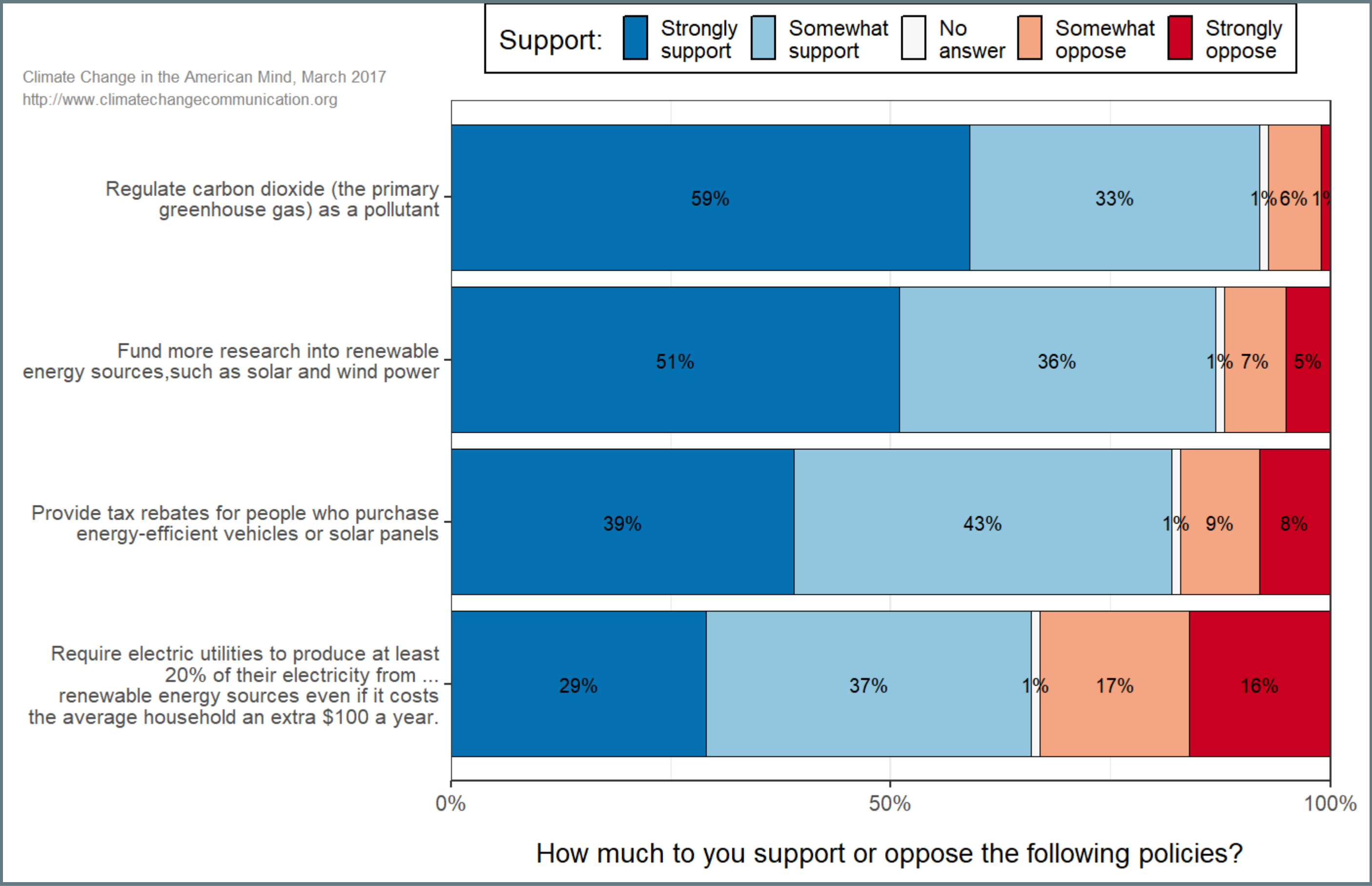


Source: Gallup: Preference for Environment Over Economy Largest Since 2000 (2019)

Public Opinion on Priorities (2015)



Public Support for Policies (2017)



Political Will

Political Will

- Walter Lippmann (Pielke's paraphrase):

The goal of politics is not to get everyone to think alike, but to get people who think differently to act alike

- Cass Sunstein

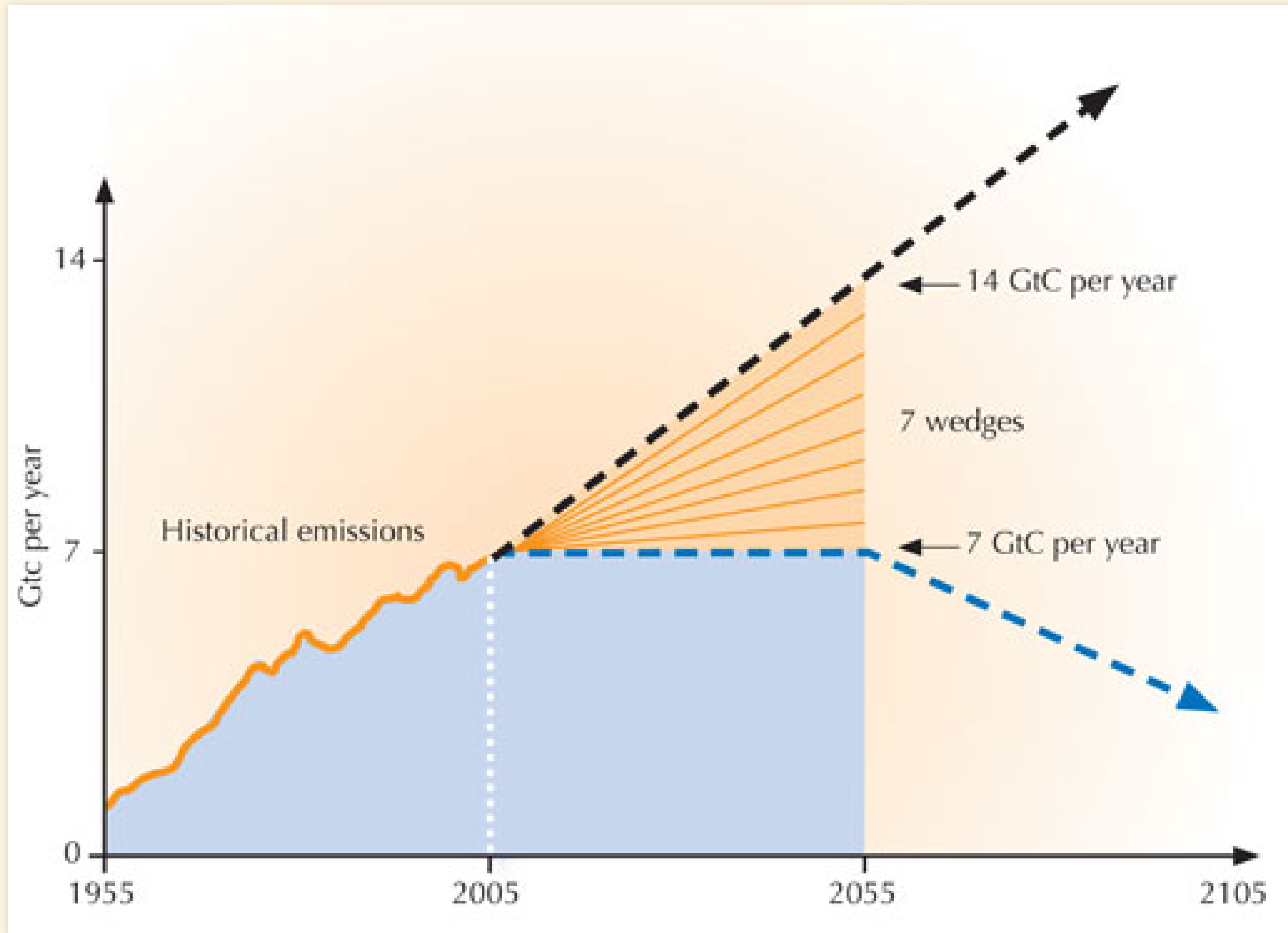
people can often agree on constitutional practices, and even on constitutional rights, when they cannot agree on constitutional theories

...

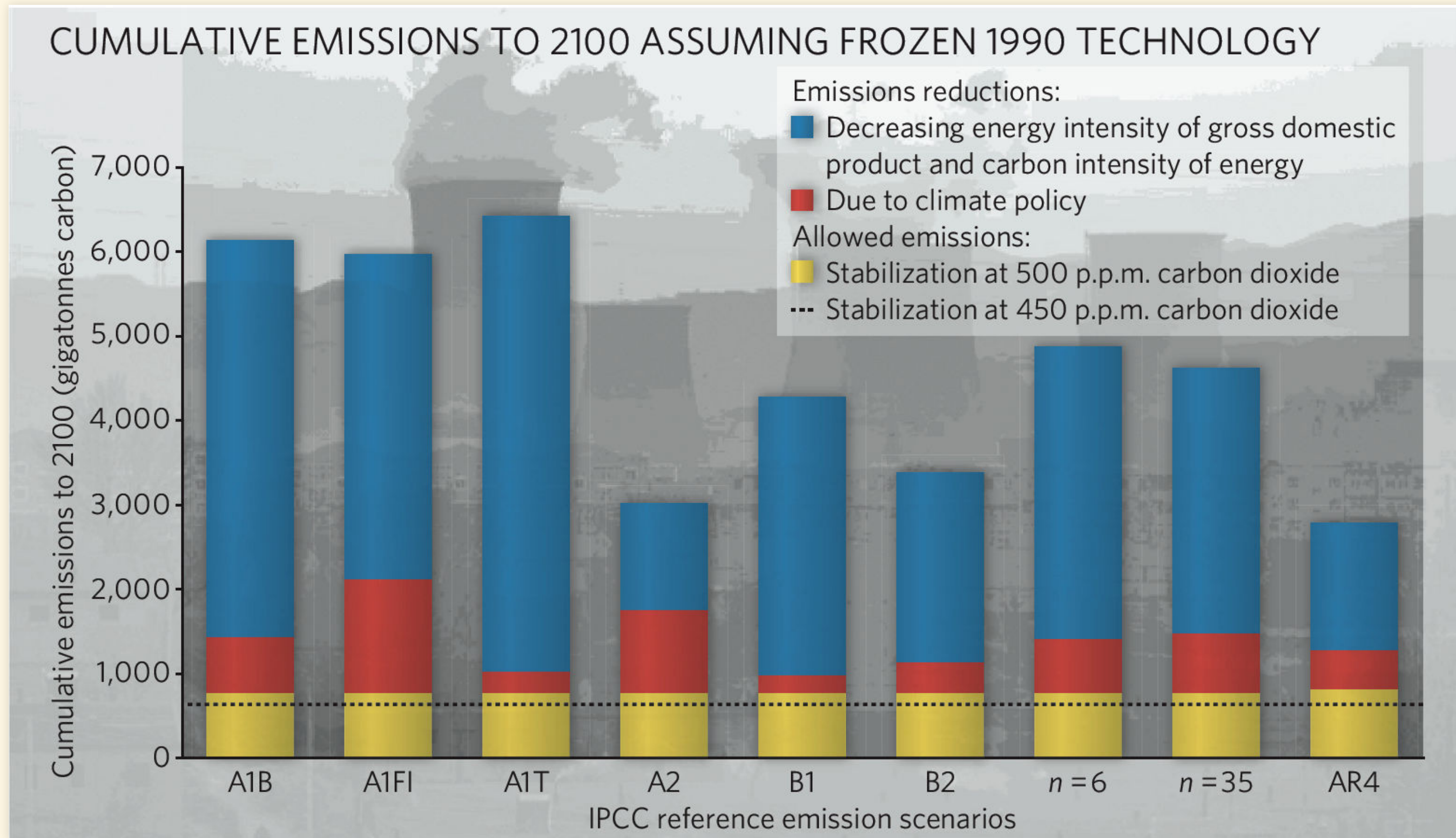
a major goal of a heterogeneous society [is] to make it possible to obtain agreement where agreement is necessary, and to make it unnecessary to obtain agreement where agreement is impossible.

Myth 3:
We have all
the technology we need.

Do we have the technology?



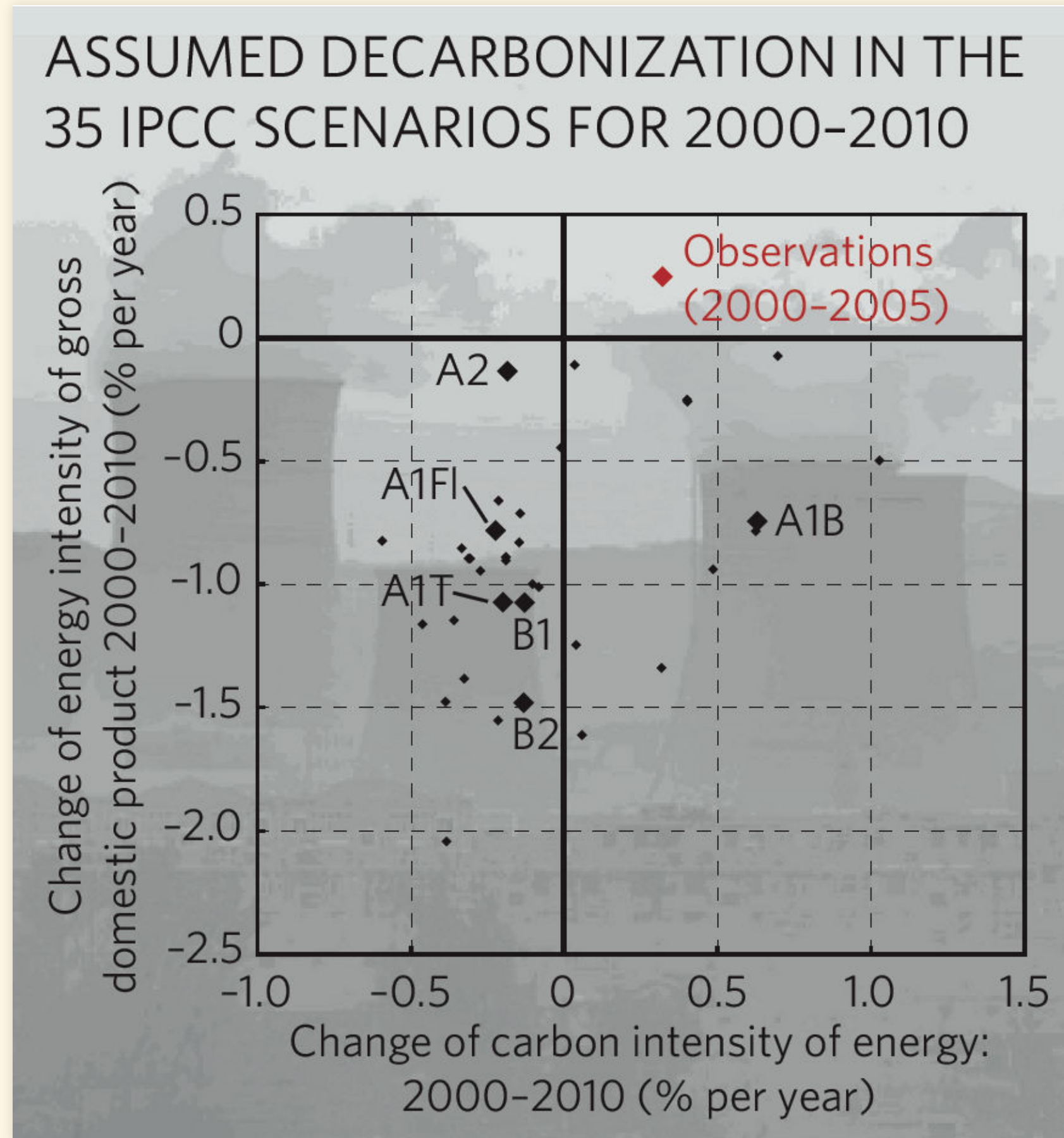
Do we have the technology?



R.A. Pielke, Jr. et al., Nature **452**, 531 (2008). doi: 10.1038/452531a

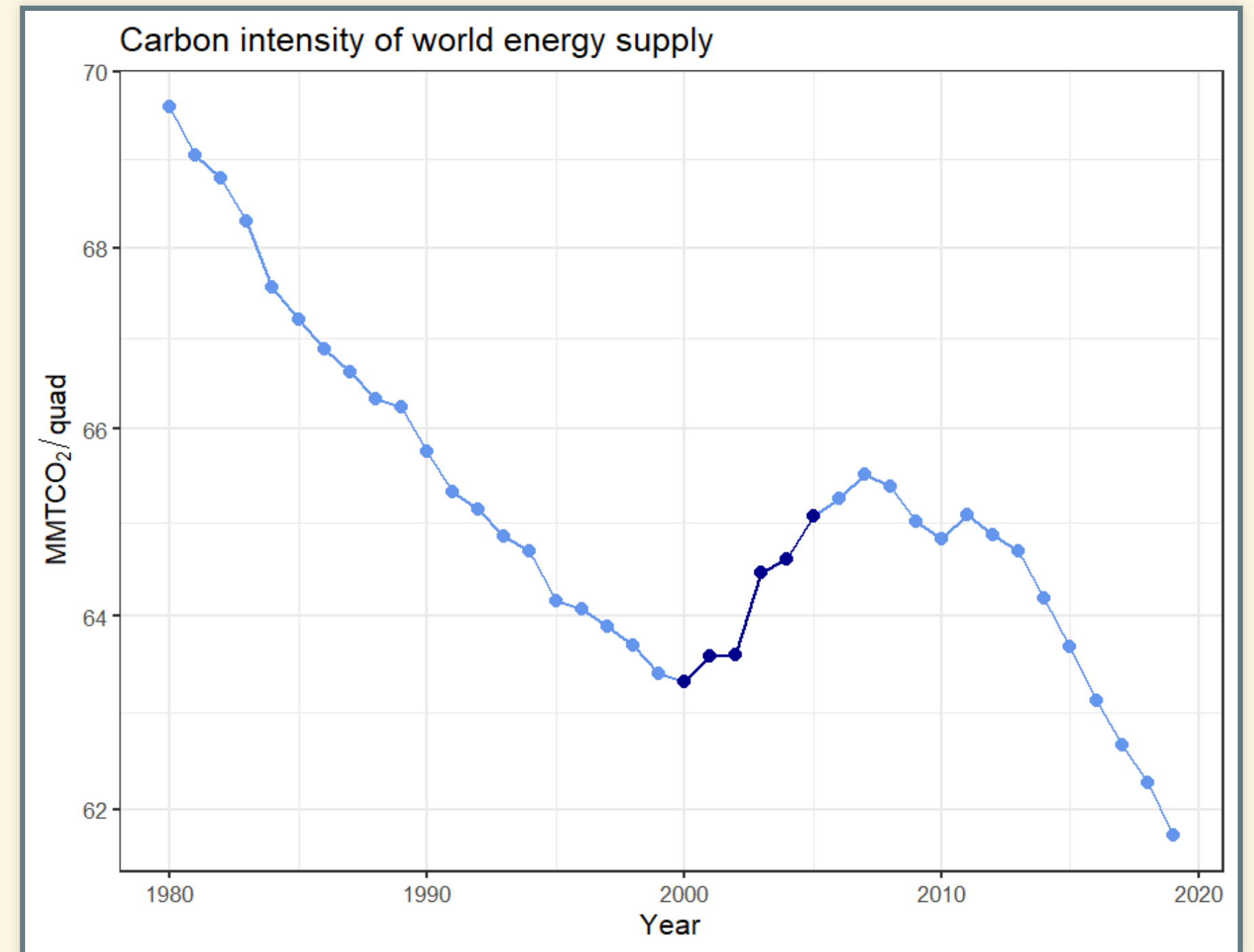
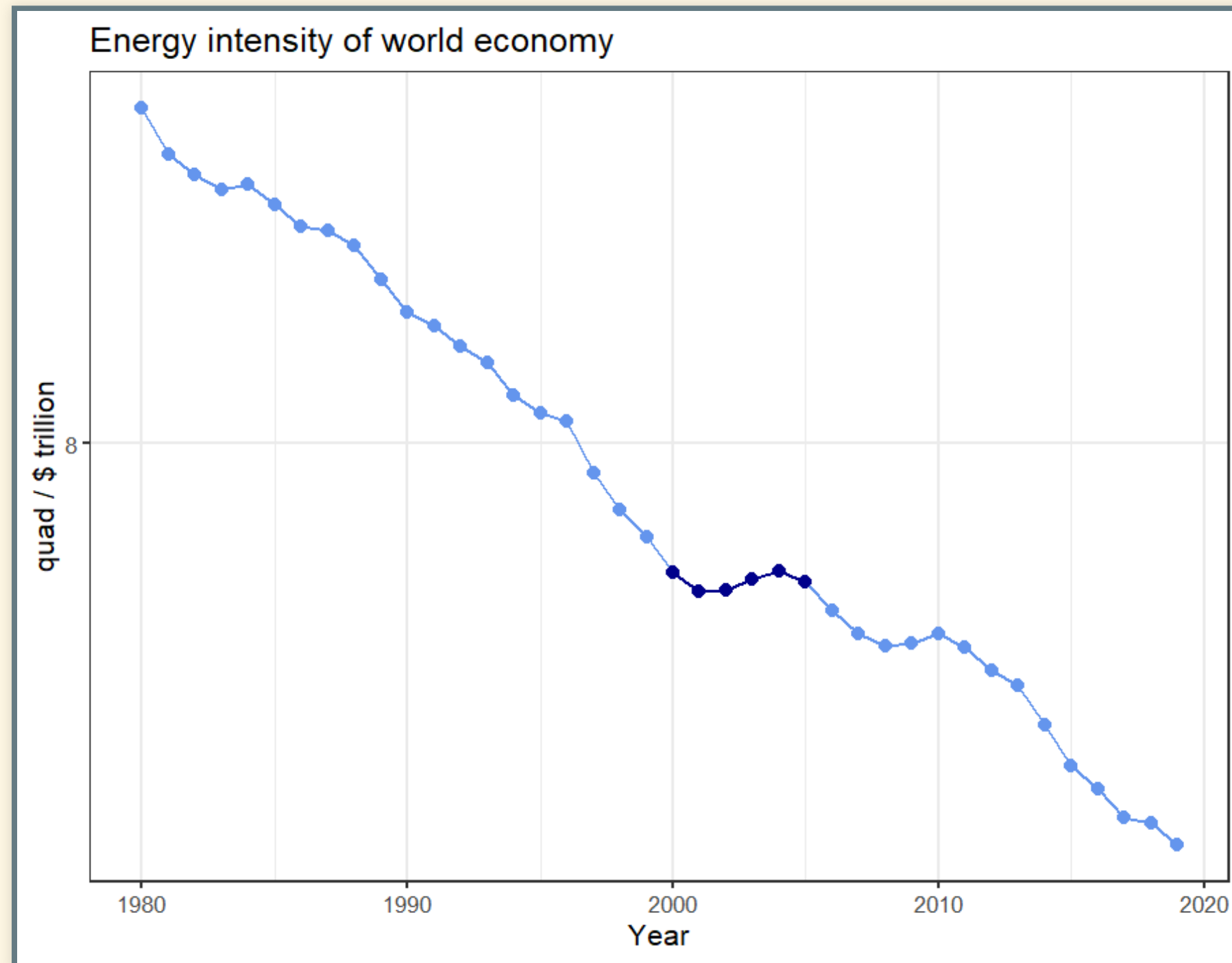
- Blue = Assumed spontaneous emissions reduction
- Brown = Regulations
- Yellow = Allowed emissions to stabilize CO₂ at 550 ppm.

Optimism on energy efficiency

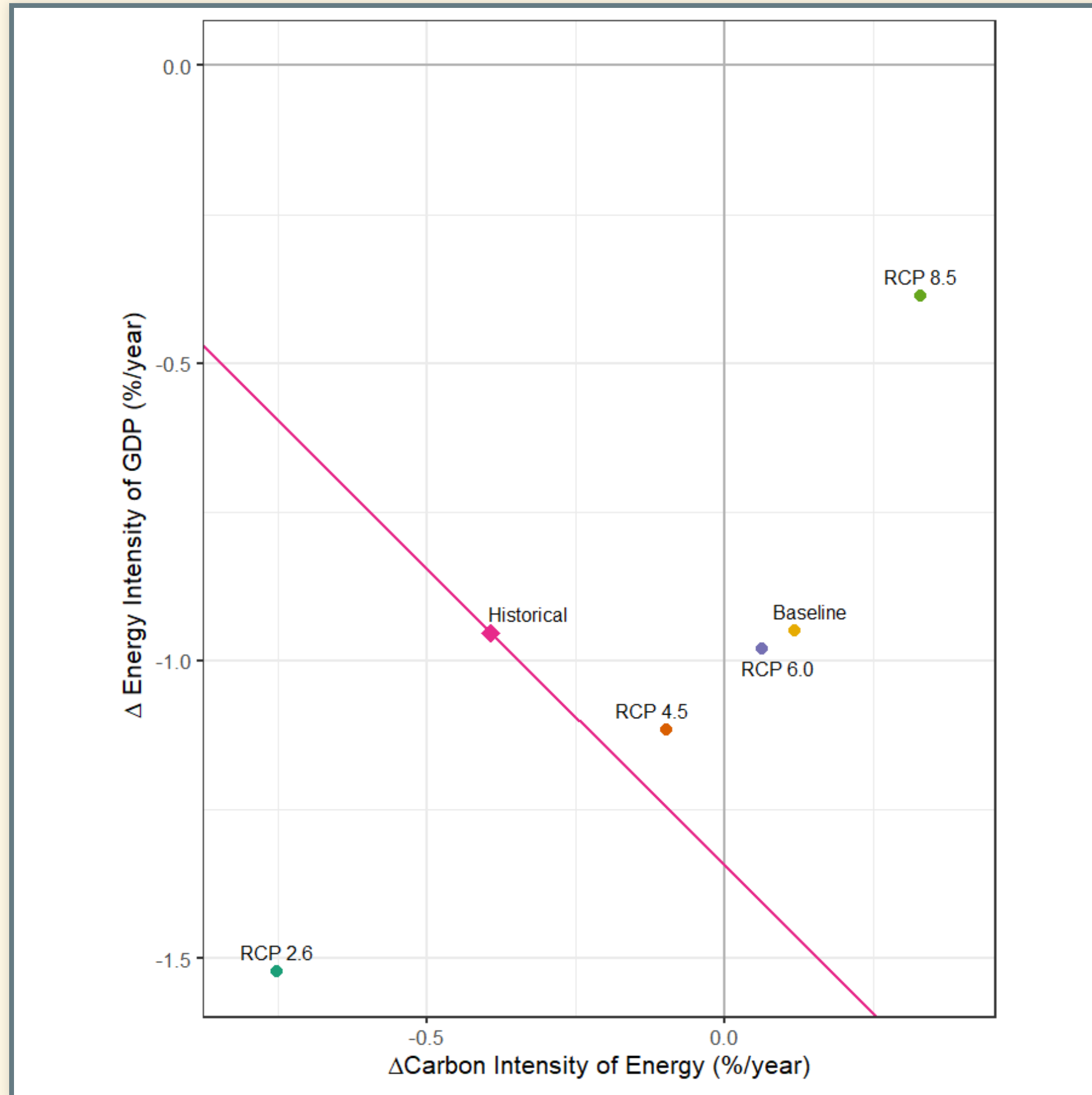


The View from 2018:

- Pielke's numbers focus on 2000–2005
 - The years when China's economy began really rapid growth
- After 2005, things changed:



Current Emissions Pathways



- Comparing actual trends for 2005–2017 to trends for 2005–2020 in 5 emissions scenarios:
 - Points above & right of the magenta line have higher emission trends than historical
 - Points below & left of the magenta line have lower emission trends than historical
- The historical trend from 2005–2017 is doing better (lower emissions) than several scenarios including baseline (no policies) and RCP 6.0 (business as usual with current policies).

Summary

- Pielke and others were very pessimistic around 2010
- Ten years later:
 - Some reasons for greater optimism
 - But still cause for concern

2021 UN Report



“Current levels of climate ambition are very far from putting us on a pathway that will meet our Paris agreement goals,” said Patricia Espinosa, executive secretary of the U.N. Framework Convention on Climate Change.

Even if countries follow through, [they] would put the world on a path to achieve only a 1 percent reduction in global emissions by 2030....

By contrast, scientists have said that emissions must fall by nearly 50 percent this decade for the world to realistically have a shot at avoiding devastating temperature rise.

Do we have the technology?

